

Attorney's Docket: 2003DE104

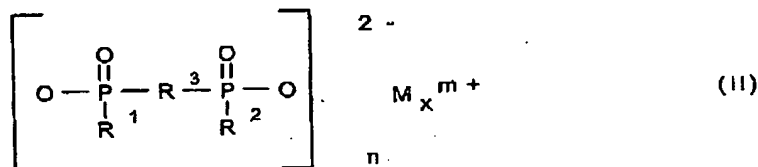
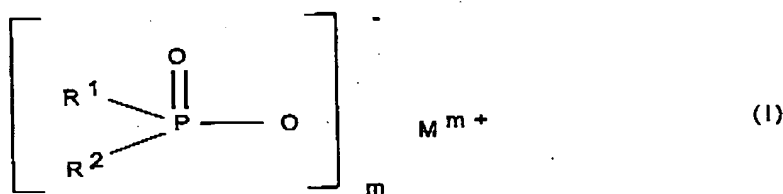
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This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A flame retardant and stabilizer combined, for thermoplastic polymers, comprising from 50 to 90% by weight of a component A selected from the group consisting of a phosphinic salt of the formula (I), a diphosphinic salt of the formula (II), polymers of the formula (I), polymers of the formula (II) and mixtures thereof,



where

R^1, R^2 are identical or different and are $\text{C}_1\text{-C}_6$ -alkyl, linear or branched, or aryl;

R^3 is $\text{C}_1\text{-C}_{10}$ -alkylene, linear or branched, $\text{C}_6\text{-C}_{10}$ -arylene, -alkylarylene or -arylalkylene;

M is Mg, Ca, Al, Sb, Sn, Ge, Ti, Zn, Fe, Zr, Ce, Bi, Sr, Mn, Li, Na, K, or a protonated nitrogen base;

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m is 1 to 4;

n is 1 to 4;

x is 1 to 4,

[[.]] as component B, from 10 to 75% by weight of a nitrogen-containing synergist or of a phosphorus/nitrogen flame retardant, as component C, from 0.1 to 50% by weight of a basic or amphoteric oxide, hydroxide, carbonate, silicate, borate, stannate, mixed oxide/hydroxide, oxide/hydroxide/carbonate, hydroxide/silicate, hydroxide/borate, or a mixture thereof, as component D, from 0 to 5% by weight of a phosphonite of the structure

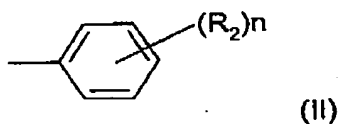


where

R is a mono- or polyvalent aliphatic, aromatic, or heteroaromatic organic radical,

and

R₁ is a compound of the structure (II)



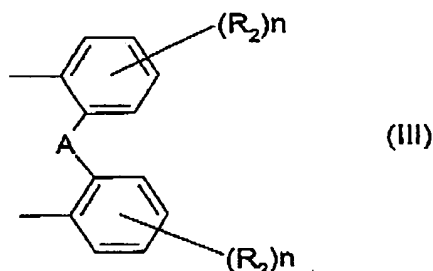
or the two radicals R₁ form a bridging group of the structure (III)

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where

A is a direct bond, O, S, C_{1-18} -alkylene (linear or branched), or C_{1-18} -alkylidene (linear or branched),

where

R_2 independently of one another, are C_{1-12} -alkyl (linear or branched), C_{1-12} -alkoxy, or C_{5-12} -cycloalkyl, and

n is from 0 to 5, and

m is from 1 to 4,

[[,]] as component E, from 0 to 5% by weight of an ester or salt of montan wax acid, and comprises, as component F, from 0.1 to 5% by weight of an N,N'-bispiperidinyl-1,3-benzenedicarboxamide and/or N,N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,3-benzenedicarboxamide, the entirety of the components always being 100% by weight.

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2. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein R^1 and R^2 are identical or different, and are C_1 - C_6 -alkyl, linear or branched, or phenyl.
3. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein R^1 and R^2 are identical or different and are methyl, ethyl, n-propyl, isopropyl, n-butyl, tert-butyl, n-pentyl or phenyl.
4. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein R^3 is methylene, ethylene, n-propylene, isopropylene, n-butylene, tert-butylene, n-pentylene, n-octylene, n-dodecylene; phenylene, naphthylene; methylphenylene, ethylphenylene, tert-butylphenylene, methylnaphthylene, ethylnaphthylene, tert-butylnaphthylene; phenylmethylene, phenylethylene, phenylpropylene, or phenylbutylene.
5. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein M is calcium ions, aluminum ions, or zinc ions.
6. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein component B is a condensation product of melamine.

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7. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 6, wherein the condensation product of melamine is melem, melam, melon or compounds thereof having higher condensation levels.
8. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein component B is reaction products of melamine with polyphosphoric acid, reaction products of condensation products of melamine with polyphosphoric acid, or mixtures thereof.
9. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 8, wherein the reaction products comprise dimelamine pyrophosphate, melamine polyphosphate, melem polyphosphate, melam polyphosphate, melon polyphosphate or mixed polysalts thereof.
10. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 9, wherein component B is melamine polyphosphate.
11. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein the phosphorus/nitrogen flame retardant is a nitrogen-containing phosphate of the formula $(\text{NH}_4)_y \text{H}_{3-y} \text{PO}_4$ or $(\text{NH}_4 \text{PO}_3)_z$, where y is from 1 to 3, and z is from 1 to 10 000.

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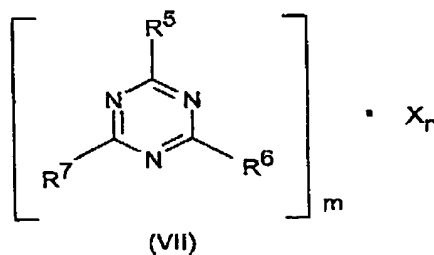
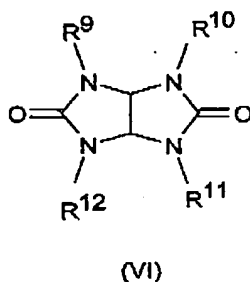
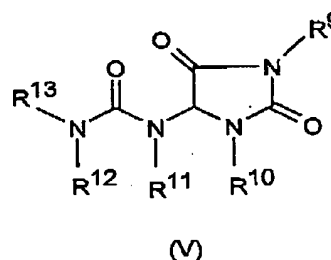
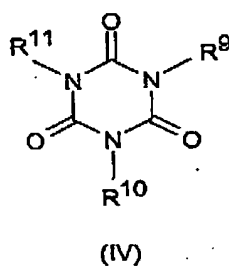
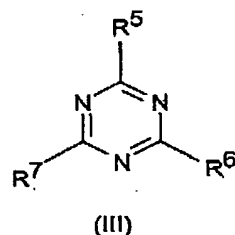
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12. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 11, wherein the phosphorus/nitrogen flame retardant is ammonium hydrogenphosphate, ammonium dihydrogenphosphate, or ammonium polyphosphate.

13. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein the nitrogen-containing synergist is of the formulae (III) to (VIII), or a mixture thereof

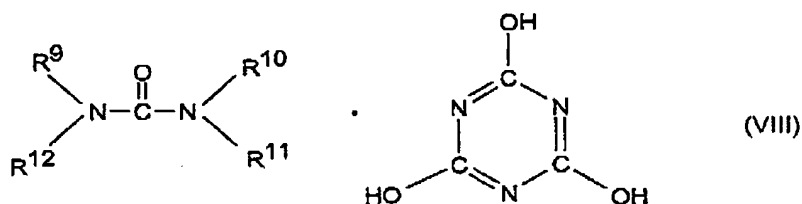


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where

R^5 to R^7 are hydrogen, C_1 - C_8 -alkyl, C_5 - C_{18} -cycloalkyl or -alkylcycloalkyl, optionally substituted with a hydroxy or a C_1 - C_4 -hydroxyalkyl function, C_2 - C_8 -alkenyl, C_1 - C_8 -alkoxy, -acyl, -acyloxy, C_6 - C_{12} -aryl or -arylalkyl, -OR⁸, or -N(R⁸)R⁹, or a N-alicyclic or N-aromatic system,

R^8 is hydrogen, C_1 - C_8 -alkyl, C_5 - C_{18} -cycloalkyl or -alkylcycloalkyl, optionally substituted with a hydroxy or a C_1 - C_4 -hydroxyalkyl function, C_2 - C_8 -alkenyl, C_1 - C_8 -alkoxy, -acyl, -acyloxy, or C_6 - C_{12} -aryl or -arylalkyl,

R^9 to R^{13} are the same as the groups for R^8 , or -O-R⁸,

m and n independently of one another, are 1, 2, 3, or 4,

X is an acid which forms adducts with triazine compounds (III); or an oligomeric ester of tris(hydroxyethyl) isocyanurate with aromatic polycarboxylic acids.

14. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein the nitrogen-containing synergist is benzoguanamine, tris(hydroxyethyl) isocyanurate, allantoin, glycoluril, melamine, melamine cyanurate, dicyandiamide or guanidine.

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15. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, further comprising a carbodiimide.

16. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein component C is magnesium oxide, calcium oxide, aluminum oxide, zinc oxide, manganese oxide, or tin oxide.

17. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, wherein component C is aluminum hydroxide, boehmite, dihydrotalcite, hydrocalumite, magnesium hydroxide, calcium hydroxide, zinc hydroxide, tin oxide hydrate, manganese hydroxide, zinc borate, basic zinc silicate or zinc stannate.

18. (Currently Amended) The flame retardant and stabilizer combined, as claimed in claim 1, comprising from ~~[[0 to 50%]]~~ 10 to 50% by weight of component B, from 1 to 20% by weight of component C, from 0 to 5% by weight of component D, from 0 to 5% by weight of component E, and from 0.1 to 5% by weight of component F.

19. (Previously Presented) The flame retardant and stabilizer combined, as claimed in claim 1, comprising from 50 to 80% by weight of component A, from 20 to 50% by weight of component B, from 2 to 20% by weight of component C, from 0 to 3% by weight of component D, from 0 to 3% by weight of component E, and from 0.1 to 4% by weight of component F.

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20. (Previously Presented) A flame-retardant plastic molding composition, comprising a flame retardant and stabilizer combined, as claimed in claim 1.
21. (Previously Presented) The flame-retardant plastic molding composition as claimed in claim 20, wherein the plastic is a thermoplastic polymer selected from the group consisting of HI (high-impact) polystyrene, polyphenylene ethers, polyamides, polyesters, polycarbonates, or blends or polyblends of ABS (acrylonitrile-butadiene-styrene), PC/ABS (polycarbonate/acrylonitrile-butadiene-styrene), or PPE/HIPS (polyphenylene ether/HI polystyrene) plastic.
22. (Previously Presented) The flame-retardant plastic molding composition as claimed in claim 20, wherein the plastic is polyamide.
23. (Currently Amended) The flame-retardant plastic molding composition as claimed in [[claim 1]] claim 20, comprising from 2 to 50% by weight of the flame retardant and stabilizer combined, based on the plastic molding composition.
24. (Currently Amended) The flame-retardant plastic molding composition as claimed in [[claim 1]] claim 20, comprising from 10 to 30% by weight of the flame retardant and stabilizer combined, based on the plastic molding composition.

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25. (Previously Presented) The flame-retardant plastic molding composition as claimed in claim 20, wherein the flame retardant and stabilizer combined further comprises a carbodiimide.

26. (Currently Amended) A polymer [[compound]] composition comprising a flame retardant and stabilizer combined, as claimed in claim 1, wherein the polymer compound is selected from the group consisting of a polymer molding, polymer film, polymer filament and polymer fiber.

27. (Previously Presented) The polymer composition as claimed in claim 26, wherein the polymer is selected from the group consisting of HI (high-impact) polystyrene, polyphenylene ethers, polyamides, polyesters, polycarbonates, and blends or polyblends of ABS (acrylonitrile-butadiene-styrene), or PC/ABS (polycarbonate/acrylonitrile-butadiene-styrene).

28. (Previously Presented) The composition as claimed in claim 26 comprising from 2 to 50% by weight of the flame retardant and stabilizer combined, based on the polymer content.